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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/597,547	06/19/2000	Juris Sulcs	ADVB-412	4064

7590 06/02/2003

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EXAMINER

SANTIAGO, MARICELI

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 06/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/597,547

Applicant(s)

SULCS ET AL.

Examiner

Mariceli Santiago

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-11, 27-31, 38-50 and 53 is/are allowed.
- 6) ☒ Claim(s) 1-4, 12-14, 16, 17, 19, 23-26 and 32-37 is/are rejected.
- 7) ☒ Claim(s) 5-7, 15, 18, 20-22, 51 and 52 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☒ Interview Summary (PTO-413) Paper No(s). 11
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

The Amendment, filed on April 16, 2003, has been entered and acknowledged by the Examiner.

New submitted claims 51-53 have been entered and acknowledged by the Examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 3, 4, 12-14 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Kowalczyk et al. (US 5,525,863).

✓ Regarding claim 3, Kowalczyk discloses a discharge lamp (see Figs.3 and 4a) having a base (1), a light transparent outer envelope (2) and an arc tube operatively mounted therein, the base (1) and the arc tube (3) being rotationally fixed relative to each other and the base having means (6 and 7) for predetermining the rotational orientation thereof when operatively mounted in a fixture, the arc tube (10) having a pair of spaced apart electrodes (15), an upper portion (10b) longitudinally conforming generally between the electrodes to the shape of the arc to be drawn therebetween and a canoe-shaped lower portion (10a, lower portion is canoe-shape, i.e., having flat lower portion with upwardly extending end portions, in the longitudinal direction).

Regarding claim 4, Kowalczyk discloses a lamp wherein the lower portion has a substantially flattened bottom (see Fig.4a, lower portion in the longitudinal direction).

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Regarding claim 12, Kowalczyk discloses an arc tube (see Fig. 4a) having a pair of spaced apart electrodes (15) and a canoe-shaped lower portion (10a, lower portion is canoe-shape, i.e., having flat lower portion with upwardly extending end portions, in the longitudinal direction).

Regarding claim 13, Kowalczyk discloses an arc tube (see Fig. 4a) including an upper portion longitudinally conforming generally between the electrodes (15) to the shape of the arc to be drawn therebetween.

Regarding claim 14, Kowalczyk discloses an arc tube wherein the bottom portion is upwardly concave both longitudinally (Fig. 4a) and transversely (Fig. 4c).

Regarding claim 16, Kowalczyk discloses an arc tube wherein the electrodes (15) are closer to all parts of the bottom portion than to any part of the upper portion (the electrodes are offset on a vertical downwardly direction from the central axis of the arc tube, see Figs. 4a and 4c).

Claims 17, 19, 23-26 and 32-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Howles et al. (US 4,001,623).

✓ Regarding claim 17, Howles discloses a double-ended arc tube having a pair of spaced apart electrodes (14), an upper portion (19, upper section of the arc tube in the longitudinal direction, Fig. 5) longitudinally conforming generally between the electrodes to the shape of the arc to be drawn therebetween in the operation of the arc tube (10), and a flattened bottom (bottom section of arc tube 10, flattened in the longitudinal direction, Fig. 5).

Regarding claim 19, Howles discloses an arc tube (see Fig. 5) wherein the electrodes (14) are closer to all parts of the bottom portion (10) than to any part of the upper portion (19).

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Regarding claim 23, Howles discloses an arc tube having a pair of spaced apart electrodes (14) and a lower portion having a flattened bottom (bottom section of arc tube 10, flattened in the longitudinal direction, Fig. 5), the distance from the electrodes (14) to the bottom (bottom section of arc tube 10, flattened in the longitudinal direction) being less than the distance from the electrodes (14) to the upper portion (19) of the arc tube (see Fig. 5).

Regarding claim 24, Howles discloses an arc tube wherein the upper portion is circular in cross-section between the free ends of the electrodes, the radius of curvature of the upper portion increasing from the electrodes toward the center of the arc tube (Fig. 6 shows a circular cross-sectional upper portion; as shown in Fig. 5 the cross-section of the arc tube decreases in diameter from the center of the arc tube towards the ends, i.e., electrodes location, accordingly, the radius of curvature is larger for the center of the arc tube with a larger diameter than for the ends of the arc tube with a smaller diameter).

Regarding claim 25, Howles discloses an arc tube (see Fig. 6) where the electrodes are lower than the axis of the circle of the upper portion at the center of the arc tube (cross-section on Fig. 6 shows an axis center 13, the electrodes are offset a distance x below center 13, Column 2, lines 10-23).

Regarding claim 26, Holes discloses an arc tube (Fig. 6) wherein the upper portion joins the lower portion below the electrodes.

Regarding claim 32, Howles discloses an arc tube (see Fig. 5) having a pair of spaced apart coaxial electrodes (14), an upper portion (19) longitudinally conforming generally between the electrodes to the shape of the arc to be drawn therebetween in the operation of the arc tube (10), and a flattened bottom (bottom section of arc tube 10, flattened in the longitudinal direction). The recitation "to hereby reduce the temperature differential in the arc tube walls" has not been given patentable weight because is considered an intended used recitation. It has

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been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ 2d 1647 (1987).

Regarding claim 33, Howles discloses an arc tube (Fig. 5) wherein the bottom portion is the lowest elevation of the arc tube at the longitudinal center of the arc tube.

Regarding claim 34, Howles discloses an arc tube wherein the electrodes (14) are closer to the bottom portion than to the upper portion (19) at the longitudinal center of the arc tube (10).

Regarding claim 35, Howles discloses an arc tube wherein the sides thereof progressively narrow from the center thereof toward both ends thereof (Fig. 6).

Regarding claim 36, Howles discloses an arc tube (see Fig. 6) having a pair of spaced apart electrodes (14), a generally circular cross-section upper portion (cross-section upper portion of arc tube 10, see Fig. 6) and a generally circular bottom portion (cross-section bottom portion of arc tube 10, see Fig. 6), the radius of curvature of the bottom portion being substantially greater than the radius of the upper portion (Fig. 6, as shown in the figure, the diameter of the bottom portion is larger than the diameter of the upper portion, accordingly, the radius of curvature of the bottom section is larger than the radius of curvature of the upper portion).

Regarding claim 37, Howles discloses an arc tube having a pair of spaced apart electrodes (14) and a flattened bottom (bottom portion of arc tube 10, flattened in the longitudinal direction) concave upwardly both longitudinally and laterally (see Figs. 5 and 6).

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howles et al. (US 4,001,623) in view of Kowalczyk et al. (US 5,525,863).

✓ Regarding claim 1, Howles discloses an arc tube (see Fig. 5) having a pair of spaced apart coaxial electrodes (14), an upper portion (19) longitudinally conforming generally between the electrodes to the shape of the arc to be drawn in the operation of the lamp, and a flattened lower portion (Fig. 5, flattened bottom section of lamp 10 in the longitudinal axis), the distance at all cross-sectional locations between the electrodes (14) between the flattened lower portion and the axis of the electrodes being less than the distance between the upper portion and the axis of the electrodes (14).

Howles is silent in regards to the limitation of the arc tube further including a base, a light transparent outer envelope, the base and the arc tube being rotationally fixed relative to each other and the base having means for predetermining the rotational orientation thereof when operatively mounted in a fixture. However, in the same field of endeavor, Kowalczyk discloses an arc tube assembly (see Fig. 3) further comprising a base (1), a light transparent outer envelope (2), the base and the arc tube being rotationally fixed relative to each other and the base having means (6 and 7) for predetermining the rotational orientation thereof when operatively mounted in a fixture. An outer envelope assembly is commonly used discharge lamps in order to provide additional protection in case of rupture of the arc tube. Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the

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art to incorporate the outer envelope assembly as disclosed by Kowalczyk in the arc tube of Howles in order to provide additional protection in case of rupture of the arc tube.

✓ Regarding claim 2, Howles discloses an arc tube (see Fig. 5) having a pair of spaced apart coaxial electrodes (14), an upper portion (19) longitudinally conforming generally between the electrodes to the shape of the arc to be drawn in the operation of the lamp, and a flattened lower portion (Fig. 5, flattened bottom section of lamp 10 in the longitudinal axis), no part of which is further than the radius of the upper portion defining circle. Claim 2 is rejected for the same reasons stated in the rejection of claim 1 above.

Allowable Subject Matter

Claims 8-11, 27-31, 38-50 and 53 are allowed.

Claims 5-7, 15, 18, 20-22 and 51-52 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 5, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 5, and specifically comprising the limitation of the lower portion of the arc tube has an upwardly concave end to end and side to side flattened bottom.

Regarding claims 6, 15 and 18, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims 6, 15 and 18, and specifically comprising the limitation of the electrodes are tilted downwardly toward each other.

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Regarding claim 7, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 7, and specifically comprising the limitation of the width of the arc tube at the height of the electrodes at the free ends of the electrodes is approximately $2/3$ of the width of the arc tube at the same height at the center of the arc tube.

Regarding claim 8, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 8, and specifically comprising the limitation of a double ended arc tube having a pair of spaced apart electrodes, mounted one in each end of the arc tube, and tilted downwardly toward the center of the arc tube.

Regarding claims 9-11, claims 9-11 are allowable for the reasons given in claim 8 because of their dependency status from claim 8.

Regarding claim 20, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 20, and specifically comprising the limitation of a double ended arc tube having a pair of spaced apart electrodes, the electrodes are tilted downwardly toward each other.

Regarding claims 21-22, claims 21-22 are allowable for the reasons given in claim 20 because of their dependency status from claim 20.

Regarding claim 27, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 27, and specifically comprising the limitation of an arc tube having a pair of spaced apart electrodes, a circular cross-section upper portion and a lower portion with a flattened bottom, the distance from the electrodes to the flattened bottom being less than a distance from the electrodes to the upper portion thereof.

Regarding claims 28-29, claims 28-29 are allowable for the reasons given in claim 27 because of their dependency status from claim 27.

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Regarding claim 30, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 30, and specifically comprising the limitation of an arc tube having a pair of spaced apart electrodes, a circular cross-section upper portion and a lower portion with a flattened bottom, the upper portion joins the lower portion below the elevation of the electrodes.

Regarding claim 31, claim 31 is allowable for the reasons given in claim 30 because of its dependency status from claim 30.

Regarding claim 38, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 38, and specifically comprising the limitation of an arc tube having a pair of spaced apart electrodes and a lower portion with a flattened bottom, the width of the arc tube at the height of the electrodes at the free ends of the electrodes being approximately $\frac{2}{3}$ of the width of the arc tube at the height of the electrodes at the center of the arc tube.

Regarding claims 39-40 and 53, claims 39-40 and 53 are allowable for the reasons given in claim 38 because of their dependency status from claim 38.

Regarding claim 41, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claim 41, and specifically comprising the limitation of an arc tube blank comprising an enlarged light emitting chamber intermediate tubular ends of the same diameter, the chamber having a lower portion with a flattened bottom.

Regarding claims 42-50, claims 42-50 are allowable for the reasons given in claim 41 because of their dependency status from claim 41.

Regarding claims 51-52, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims 51-52, and specifically

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comprising the limitation of the arc tube is substantially oval in the horizontal cross-section at the elevation of the electrodes.

Response to Arguments

Applicant's arguments filed April 16, 2003 in regards to claims 1-4, 12-14, 16, 17, 19, 23-26 and 32-37 have been fully considered but they are not persuasive.

Claims 1 and 2 stand rejected for the reasons set forth in **the rejection under 35 U.S.C. 103(a) as being unpatentable over Howles et al. (US 4,001,623) in view of Kowalczyk et al. (US 5,5525,863).**

Applicant argues that the assertion of the term "flattened" by the Examiner is erroneous and contrary to the meaning as used in the instant application. For examination purposes the claims are read in their broadest reasonable interpretation and not in view of the specification, therefore, the recitation "flattened bottom" is considered to be taught by Howles. Howles discloses an arc tube comprising along a longitudinal cross-section (Fig. 5) upper and lower portions, wherein the upper portion has a continuously curved profile (19) and the lower portion has a flat profile (10). In regards to Fig. 6, the figure shows a cross-sectional view transverse to the longitudinal direction of the arc tube comprising upper and lower portions having continuously curved profiles.

Claims 3, 4, 12-14 and 16 stand rejected for the reasons set forth in **the rejection under 35 U.S.C. 102(b) as being anticipated by Kowalczyk et al. (US 5,5525,863).**

Applicant argues that the prior art does not disclose a "canoe-shaped" lower portion, however, as defined in the specification as originally filed, "canoe-shaped" was defined as

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"narrowed at both ends relative to the center thereof, combination with a flattened bottom suggestive of a canoe". Kowalczyk shows in Fig.4a a vertical longitudinal cross-sectional view of the arc tube comprising upper and lower portions, the lower portion having a "canoe-shaped" profile. Furthermore, Fig.4b shows a horizontal cross-section of the arc tube at the elevation of the electrodes having approximately an inside oval shape. Accordingly, it is the Examiner position that the arc tube disclosed by Kowalczyk discloses a "canoe shaped" bottom portion.

Furthermore, Applicant argues that the prior art fails to disclose "an upper portion longitudinally conforming generally between said electrodes to the shape of the arc drawn therebetween". Kowalczyk shows in Fig.4a a vertical longitudinal cross-sectional view of the arc tube comprising a slightly elevated upper portion from the electrodes elevation and having end sections with reduced diameter, thus, the structure provides an arc tube having a general profile which conforms with the shape of the arc tube drawn between the electrodes.

Claims 17, 19, 23-26 and 32-37 stand rejected for the reasons set forth in **the rejection under 35 U.S.C. 102(b) as being anticipated by Howles et al. (US 4,001,623)**.

Applicant argues that the assertion of the term "flattened" by the Examiner is erroneous and contrary to the meaning as used in the instant application. For Examination purposes the claims are read in their broadest reasonable interpretation and not in view of the specification, therefore, the recitation "flattened bottom" is considered to be taught by Howles. Howles discloses an arc tube comprising along a longitudinal cross-section (Fig. 5) upper and lower portions, wherein the upper portion has a continuously curved profile (19) and the lower portion has a flat profile (10). In regards to Fig. 6, the figure shows a cross-sectional view transverse to the longitudinal direction of the arc tube comprising upper and lower portions having continuously curved profiles.

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mariceli Santiago whose telephone number is (703) 305-1083. The examiner can normally be reached on Monday-Friday from 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (703) 305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7382. Additionally, the following fax phone numbers can be used during the prosecution of this application (703) 872-9318 (for response before a Final Action) and (703) 872-9319 (for response after a Final Action).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

WJS 5/29/03
Mariceli Santiago
Patent Examiner
Art Unit 2879


ASHOK PATEL
PRIMARY EXAMINER